

CLAIMS

1. A composition for treating live animals, and particularly pigs and poultry, characterised therein that it treats pathogenic microorganisms, while at the same time enhancing growth performance in the animals, the composition comprising an electrochemically activated aqueous solution including separable and both of an aqueous, mixed oxidant, predominantly anion-containing solution and an aqueous, mixed anti-oxidant, predominantly cation-containing solution, the composition further being characterised therein that it is produced through electrolysis of an aqueous solution of a salt, particularly sodium or potassium chloride, carbonates, bicarbonates, sulphates or phosphates.

2. A method of treating live animals, and in particular pigs and poultry, so as treat pathogenic microorganisms, while at the same time enhancing growth performance in the animals, the method comprising the steps of electrochemically activating an aqueous solution such that the solution includes separable and both of an aqueous, mixed oxidant, predominantly anion-containing solution and an aqueous, mixed anti-oxidant, predominantly cation-containing solution; separating the aqueous, mixed anti-oxidant, predominantly cation-containing solution from the aqueous, mixed oxidant, predominantly anion-containing solution; and introducing the aqueous, mixed anti-oxidant, predominantly cation-containing solution and the aqueous,

mixed oxidant, predominantly anion-containing solution either simultaneously or sequentially into drinking water of the animals.

3. The method as claimed in claim 2 characterised therein that the anolyte is introduced into the drinking water of the animals at between 5% and 20%, and preferably 15% by volume.
4. The method as claimed in claim 2 characterised therein that the catholyte is used as the drinking water and dosed at a rate equivalent to between 5 ml and 20 ml, and preferably an average of 10 ml per kilogram bodyweight of the animals to be treated.
5. The composition as claimed in claim 1 characterised therein that the anolyte has a pH range of between 5.3 and 8.0 and an oxidation-reduction potential (ORP) in excess of +750 mV, while the catholyte has a pH range of between 8.5 and 11 and an ORP of less than –600 mV.
6. The composition as claimed in claim 1 characterised therein that the chemical composition of the two solutions can be altered by utilizing various hydraulic flow arrangements, linking electrolytic cell modules in various configurations in order optimally to address the requirements of specific areas of application, as well as through manipulation of flow rate, hydraulic

pressure, concentration, temperature, current density and voltage on the electrodes.

7. The method as claimed in claim 6 characterised therein that the negatively charged catholyte can be channelled back into the anode chamber so as to modulate the quality of the positively charged anolyte being produced, whilst the positively charged anolyte can be channelled back into the cathodic chamber so as to modulate the quality of the negatively charged catholyte being produced.
8. The method as claimed in claim 2 characterised therein that additional steps of administering the solution are by soaking, rinsing or dipping the animal in the solution; or applying the solution as an inhalant as an aerosol via an atomising or fogging process.
9. The method as claimed in claim 9 characterised therein that the atomising or fogging process includes the step of atomising the solution into the atmosphere in a volume to be treated, forming droplets of up to 100 micrometer.
10. Use of a composition in the preparation of a medicament for use in the treatment of live animals, and particularly pigs and poultry, for treating pathogenic microorganisms, while at the same time enhancing growth

performance in the animals, the composition comprising an electrochemically activated aqueous solution including separable and both of an aqueous, mixed oxidant, predominantly anion-containing solution and an aqueous, mixed anti-oxidant, predominantly cation-containing solution, the electrochemically activated aqueous solution being characterised therein that it is produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.

11. A composition for treating live animals substantially as herein illustrated with reference to the accompanying examples.
12. A method of treating live animals substantially as herein illustrated with reference to the accompanying examples.